

### **Abstract**

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3 A compact pinlifter assembly is fitted in a substantially enclosed cavity within a wafer  
4 chuck such that an overall outside shape of the wafer chuck remains highly unaffected.  
5 The pinlifter assembly includes wedge guides providing a movement path in a wedge  
6 angle relative to the wafer holding face. A pin actuator is driven along the wedge guides  
7 transforming its movement along the wedge guides into a vertical movement of the lifting  
8 pins perpendicularly sliding between the cavity and the wafer holding face. The  
9 combination of wedge guides and pin actuator takes advantage of the relatively large  
10 lateral dimensions of the wafer chuck to move the pin actuator between end positions that  
11 are in a distance multiple of the pin lifters movement. Due to the wedge angle, the  
12 actuators comparatively large scale movement is transformed in a highly precise, smooth  
13 and balanced movement of the pin lifters.